

Date: February 16, 2016

To: Thomas J. Bonfield, City Manager
Through: W. Bowman Ferguson, Deputy City Manager
From: Donald F. Greeley, Director, Water Management
Subject: North Durham Water Reclamation Facility (NDWRF) Control Panel Upgrades
FY14 WRF Improvements – Award of Construction to Gilbert Engineering

Executive Summary

The Department of Water Management (DWM) opened bids on January 5, 2016 for the North Durham Water Reclamation Facility (NDWRF) Control Panel Upgrades project. The project consists of constructing new replacement blower and solids handling control panels; installing new control valves and actuators; and integrating the software associated with these to existing SCADA/process control at the NDWRF. The Department recommends the contract be awarded to Gilbert Engineering, the lowest responsive, responsible bidder. Additionally, the Department recommends a contingency of 10% be established for the project.

Recommendation

The Department recommends City Council:

1. Authorize the City Manager to execute a contract with Gilbert Engineering for the NDWRF Control Panel Upgrades Project in the amount of \$1,972,000.00.
2. Establish a contingency fund for the contract in the amount of \$197,200.00.
3. Authorize the City Manager to negotiate change orders for the contract provided that the cost of all change orders does not exceed \$197,200.00 and the total project cost does not exceed \$2,169,200.00.

Background

Three existing Siemens blowers supply air to the biological treatment process aeration basins at the NDWRF. The blowers and associated control panels were installed in 1991, and the aging control technology is no longer supported by the manufacturer. Similarly, the control panels for the gravity belt thickener and belt filter press solids handling systems are over 20 years old and at the end of their useful life. The control panel replacement project was formally bid, and a single bid was received on December 17, 2016. The unopened bid was returned, and the project was re-advertised. After the second advertisement period, two bids were received on January 5, 2015. The bid included Supervisory Control and Data Acquisition (SCADA) integrator services, as well as control panels, actuators, and new control valves.

Issues and Analysis

The bid results are:

Contractor	Bid Amount
Crowder Construction	\$2,089,248.00
Gilbert Engineering	\$1,972,000.00

The City's consulting engineer, Hazen & Sawyer, has had successful experiences with Gilbert Engineering on past projects. After evaluation of both bids; the engineer and the

DWM recommends contract award to Gilbert Engineering as the lowest responsible and responsive bidder.

New replacement control panels are required for both the existing Siemens aeration basin blowers and the plant solids handling equipment, which are at the end of their useful life. Installing controls for the aeration blowers requires programming. In order to improve process controls, new valves and actuators will be required in multiple locations.

The nutrient improvements project included upgrades of all SCADA screens and changes to the aeration system control strategy. The control panel project described herein includes new blower control panels which need to be integrated into the existing aeration system control strategy and to all SCADA screens.

Alternatives

Do not replace the control panels. This alternative is not recommended because the control panels have reached the end of their useful life. Continued use will increase the risk of critical equipment failure, which could result in permit violations.

Financial Impact

Funding for this contract is available in the following accounts:

4100P002	731000	P2514	\$1,972,000.00
4100P002	731900	P2514	\$ 197,200.00
Total			\$2,169,200.00

SDBE Summary

There are no goals for this project.

Workforce statistics for Gilbert Engineering Co., Statesville, NC are as follows:

Total Workforce	25	
Total Females	4	16%
Total Males	21	84%
Black Males	1	4%
White Males	14	56%
Other Males	6	24%
Black Females	0	0%
White Females	4	16%
Other Females	0	0%